

IN THE CLAIMS

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1. (Currently Amended) A high-frequency semiconductor device comprising:
a substrate; ~~and~~
an Si MOS transistor ~~and a first lateral polysilicon diode~~ on the substrate; and
m lateral polysilicon diodes on the substrate, each of the first m lateral polysilicon
~~diode~~ diodes having a forward direction and a reverse direction, wherein
the first m lateral polysilicon diode connects, diodes are connected in series in
the forward direction, between a high-frequency I/O signal line to and an externally supplied
voltage, VDD,
a reverse bias voltage impressed on each of the m lateral polysilicon diodes is
smaller than 1.1 volts, and
m is an integer greater than 1.

2. (Currently Amended) ~~The A high-frequency semiconductor device of Claim 1,~~
~~further comprising a second:~~
a substrate;
an Si MOS on the substrate; and
n lateral polysilicon diode diodes on the substrate and, each of the n lateral polysilicon
diodes having a forward direction and a reverse direction, wherein
the second n lateral polysilicon diode connects, diodes are connected in series in
the forward direction, between ground, GND, to the and a high-frequency I/O signal line,
a reverse bias voltage impressed on each of the n lateral polysilicon diodes is
smaller than 1.1 volts, and
n is an integer greater than 1.

3. (Currently Amended) ~~The A high-frequency semiconductor device of Claim 2,~~
~~including comprising:~~
a substrate;
an Si MOS transistor on the substrate; and
m lateral polysilicon diodes on the substrate, each of the m lateral polysilicon diodes
having a forward direction and a reverse direction, the m polysilicon diodes being connected
in series in the forward direction between the a high-frequency I/O signal line and the an
externally supplied voltage, VDD, and n lateral polysilicon diodes on the substrate, each of
the n lateral polysilicon diodes having a forward direction and a reverse direction, the n

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polysilicon diodes being connected in series between the ground, GND, and the high-frequency I/O signal line, wherein

m and n are positive integers;

VDD/(n+m) is smaller than 1.1 volts, and

at least one of m and n is greater than 1.

4. (Currently Amended) The high-frequency semiconductor device of Claim 3, wherein no lateral polysilicon diode is connected to any signal line other than the high frequency I/O signal line.

5. (Currently Amended) ~~The A~~ high-frequency semiconductor device of Claim 1 further comprising:

a substrate;

an Si MOS transistor on the substrate;

a first lateral polysilicon diode on the substrate, the first lateral polysilicon diode having a forward direction and a reverse direction, wherein the first lateral polysilicon diode connects, in the forward direction, a high-frequency I/O signal line to an externally supplied voltage VDD; and

a capacitor having lower and upper polysilicon electrodes, wherein the first lateral polysilicon diode and the lower electrode of the capacitor are from a first polysilicon layer, and the MOS transistor has a polysilicon gate-electrode from a second polysilicon layer.

6. (Currently Amended) ~~The A~~ high-frequency semiconductor device of Claim 1 further comprising:

a substrate;

an Si MOS transistor on the substrate;

a first lateral polysilicon diode on the substrate, the first lateral polysilicon diode having a forward direction and a reverse direction, wherein the first lateral polysilicon diode connects, in the forward direction, a high-frequency I/O signal line to an externally supplied voltage VDD; and

a capacitor having lower and upper polysilicon electrodes, wherein the first lateral polysilicon diode and the lower electrode of the capacitor are from a first polysilicon layer, the MOS transistor has a polysilicon gate, and the upper electrode of the capacitor and the gate are from a second polysilicon layer.

7. (Previously Amended) The high-frequency semiconductor device of claim 5, wherein the polysilicon layer of the upper electrode of the capacitor covers a PN junction of the first lateral polysilicon diode.

8. (Previously Amended) The high-frequency semiconductor device of claim 5, wherein the capacitor includes a dielectric layer and the dielectric layer covers a PN junction of the first lateral polysilicon diode.

Claims 9-12 (Cancelled).

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13. (New) A high-frequency semiconductor device comprising:
a substrate;
an Si MOS transistor on the substrate;
a first lateral polysilicon diode on the substrate, the first lateral polysilicon diode having a forward direction and a reverse direction, wherein the first lateral polysilicon diode connects, in the forward direction, ground, GND, to a high-frequency I/O signal line; and
a capacitor having lower and upper polysilicon electrodes, wherein the first lateral polysilicon diode and the lower electrode of the capacitor are from a first polysilicon layer, and the MOS transistor has a polysilicon gate from a second polysilicon layer.

14. (New) The high-frequency semiconductor device of claim 13, wherein the polysilicon layer of the upper electrode of the capacitor covers a PN junction of the first lateral polysilicon diode.

15. (New) The high-frequency semiconductor device of claim 13, wherein the capacitor includes a dielectric layer and the dielectric layer covers a PN junction of the first lateral polysilicon diode.

16. (New) A high-frequency semiconductor device comprising:
a substrate;
an Si MOS transistor on the substrate;
a first lateral polysilicon diode on the substrate, the first lateral polysilicon diode having a forward direction and a reverse direction, wherein the first lateral polysilicon diode connects, in the forward direction, ground, GND, to a high-frequency I/O signal line; and

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a capacitor having lower and upper polysilicon electrodes, wherein the first lateral polysilicon diode and the lower electrode of the capacitor are from a first polysilicon layer, the MOS transistor has a polysilicon gate, and the upper electrode of the capacitor and the gate are from a second polysilicon layer.
